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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,983	12/31/2001	Tadao Kai	1548.1009/DMP	6981
21171	7590	09/23/2005	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			LAM, HUNG H	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/029,983	Applicant(s) KAI ET AL.	
	Examiner Hung H. Lam	Art Unit 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 6-7, 15-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-14, 17 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Election/Restrictions

2. Claims 6-7 and 15-16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 08/05/05.
3. The Applicant is reminded that upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Specification

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4, 10-12, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Palum (US-5,335,091).

With regarding **claim 1**, Palum discloses an image-capturing device comprising:

an image-capturing element (Fig. 3; CCD 3) that converts light to an electrical signal (it is inherent that CCD is used to convert light to electrical signal);

a photographic lens member (Fig. 3; lens 15) that condenses subject light at the image-capturing element (Col. 6, Ln. 61-62; it is inherent that the photographic lens is used to condenses subject light at the image-capturing element);

a board (Fig. 3; circuit board 12 and frame 7) on which the image-capturing element is mounted (Col. 6, Ln. 63-64); and

an elastic member (Fig. 3; connecting beams 1, 4, 5, 13, 14 and 18) having one end thereof secured to the photographic lens member and another end thereof secured to the board (Col. 6, Ln. 62; Col. 6, Ln. 65-67).

With regarding **claim 2**, Palum discloses an image-capturing device, further comprising:

a drive device (Fig. 3; solenoids 16 and 17) that moves the board and the photographic lens

member relatively to each other along a direction substantially perpendicular to an optical axis of the photographic lens member (Col. 6, Ln. 64-65; Col. 6, Ln. 67- Col. 7, Ln. 4).

With regarding **claim 3**, Palum discloses an image-capturing device, wherein: the drive device (Fig. 3; solenoids 16 and 17) moves the board and the photographic lens member relatively to each other along a direction substantially perpendicular to the optical axis of the photographic lens member by imparting an electromagnetic force (Col. 6, Ln. 64-65; Col. 6, Ln. 67- Col. 7, Ln. 4).

With regarding **claim 4**, Palum discloses an image-capturing device, wherein:
the board is an electric circuit board (Fig. 3 shows that circuit board 12 and rigid frame 7 are mounted to each other; Col. 6, Ln. 62-63); and
the elastic member achieves electrical conductivity (Col. 7, Ln. 30-38; it is inherent that beam 1 and 18 comprise electrical conductivity because they are made up of metals) and at least part of the drive device (solenoids s 16 and 17) and the electric circuit board (12) are electrically connected via the elastic member (see Fig. 3; Col. 7, Ln. 30-38; Palum teaches that the beams are made up of metals such that steel, aluminum; it is inherent that the beams is capable of electrically connecting to solenoids s 16-17 and electric circuit board 12).

With regarding **claim 10**, Palum discloses an image-capturing device, wherein: the elastic member (Fig. 3; connecting beams 1, 4, 5, 13, 14 and 18) is formed in a narrow, elongated rod shape (see Fig. 3) and achieves elasticity along a direction perpendicular to a longitudinal direction thereof (Col. 6, Ln. 64-65; Col. 6, Ln. 67- Col. 7, Ln. 4).

With regarding **claim 11**, Palum discloses an image-capturing device, wherein: the elastic member is a metal wire (Col. 7, Ln. 30-38).

With regarding **claim 12**, Palum discloses an image-capturing device, wherein: the photographic lens member includes a photographic lens portion (Fig. 3; lens 15) and a holding portion for holding the photographic lens (Col. 6; Ln. 63; rigid frame 2 is interpreted as a lens holding portion).

With regarding **claim 17**, Palum discloses an image-capturing device, wherein: the elastic member (Fig. 3; connecting beams 1, 4, 5, 13, 14 and 18) regulates the distance between the image-capturing element and the photographic lens member (Fig. 3 shows that the distance between the CCD 3 and the lens 15 is defined by the length of beams 1, 4, 5, 13, 14 and 18).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 5, 8, 9 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Palum in view of Nobuhiro (JP07-248522)

With regarding **claim 5**, Palum discloses an image-capturing device, wherein: the drive device (Fig. 3; solenoids 16-17) comprises an electromagnet that moves as part of the photographic lens member (Col. 6, Ln. 67 – Col. 7, Ln. 4; Palum teaches that the activation of solenoids 16 and 17 which are mounted to frame 7 and board 12, cause a displacement of rigid frame 2/ holder of lens 15 in x-y direction). However, Palum fails to teach a permanent magnet that is secured to the board.

In the same field of endeavor, Nobuhiro teaches a camera using magnetic force for anti-vibration (Abstract; Purpose). Nobuhiro further teaches a configuration of anti vibration wherein electromagnet and plastic permanent magnet are utilized in order to reduce the manufacturing cost (Detail Description, [0021]; see Description of Drawing; labels for permanent magnet and electromagnet of drawing 5 and 7 are identical). In light of the teaching from Nobuhiro, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Palum by having a plastic permanent magnet of Nobuhiro secures to the board in order to provide an anti-vibration configuration which reduces manufacturing cost (Nobuhiro; Detail Description, [0021]).

With regarding **claim 8**, Palum teaches a drive control which secure to frame 7 (see Fig. 3; drive control/ solenoids 16-17), but fails to disclose an image-capturing device, further comprising: a vibration detection sensor secured to the board, which outputs an electrical signal corresponding to an extent of vibration of the image-capturing device; and a vibration-proofing control unit that implements drive control on the drive device in conformance to an output from

the vibration detection sensor. However, the limitations are well known in the art as taught by Nobuhiro.

In the same field of endeavor, Nobuhiro teaches a camera for blurring prevention (Detail Description; [0001-0002]). Nobuhiro further teaches an x-y vibration detection sensor (drawing 7; angular velocity meter 401x-y), which outputs a vibration signal corresponding to the vibration of the image-capturing device (Detail Description; [0004]); In addition, the output vibration signal is inputted to a control unit (Detail Description; [0004]; 403x-y: control unit in drawing 7 which is equivalent with control unit 42 in drawing 2) which is used to control the electromagnet for blurring prevention (Detail Description; [0014-0016]). In light of the teaching from Nobuhiro, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Palum to include the vibration detection sensor and vibration-proofing control unit of Nobuhiro in order to control the electromagnetic force for moving the holding frame in a direction orthogonally crossing an optical axis and thereby providing an inexpensive and light weight camera with blurring prevention (Nobuhiro; abstract).

With regarding **claim 9**, Palum teaches a drive control which secure to frame 7 (see Fig. 3; drive control/ solenoids 16-17), but fails to disclose an image-capturing device, further comprising: a position detection sensor secured to a board, which outputs an electrical signal corresponding to a position representing relative movement of the board and the photographic lens member, wherein: the vibration-proofing control unit implements drive control on the drive device in conformance to outputs from the vibration detection sensor and the position detection sensor. However, the limitations are well known in the art as taught by Nobuhiro.

In the same field of endeavor, Nobuhiro teaches a camera for blurring prevention (Detail Description; [0001-0002]). Nobuhiro further teaches an x-y position detection sensor (drawing 7; position detection sensor 402x-y), which outputs a position signal corresponding to the displacement of the image-capturing device (Detail Description; [0004]); In addition, the output position signal is inputted to a control unit (Detail Description; [0004]; 403x-y: control unit in drawing 7 which is equivalent with control unit 42 in drawing 2) which is used to control the electromagnet for blurring prevention (Detail Description; [0014-0016]). In light of the teaching from Nobuhiro, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Palum to include the position detection sensor and vibration-proofing control unit of Nobuhiro in order to control the electromagnetic force for moving the holding frame in a direction orthogonally crossing an optical axis and thereby providing an inexpensive and light weight camera with blurring prevention (Nobuhiro; abstract).

With regarding **claim 18**, Palum discloses an image-capturing device comprising:

an image-capturing element (Fig. 3; CCD 3) that converts light to an electrical signal (it is inherent that CCD is used to convert light to electrical signal);

a photographic lens member that includes a photographic lens portion (Fig. 3; lens 15) and a holding portion for holding the photographic lens (Fig. 3; frame 2) and condenses subject light at the image-capturing element (Col. 6, Ln. 61-62; it is inherent that the photographic lens is used to condenses subject light at the image-capturing element);

a board (Fig. 3; circuit board 12 and frame 7) on which the image-capturing element is mounted (Col. 6, Ln. 63-64);

an elastic member (Fig. 3; connecting beams 1, 4, 5, 13, 14 and 18) having one end thereof secured to the photographic lens member and another end thereof secured to the board (Col. 6, Ln. 62; Col. 6, Ln. 65-67);

a drive device (Fig. 3; solenoids 16 and 17) that moves the board and the photographic lens member relatively to each other along a direction substantially perpendicular to an optical axis of the photographic lens member (Col. 6, Ln. 64-65; Col. 6, Ln. 67- Col. 7, Ln. 4);

However, Palum fails to teach:

a vibration detection sensor secured to the board, which outputs an electrical signal corresponding to an extent of vibration of the image-capturing device;

a position detection sensor secured to a board, which outputs an electrical signal corresponding to a position representing relative movement of the board and the photographic lens member; and

a vibration-proofing control unit that implements drive control on the drive device in conformance to outputs from the vibration detection sensor and the position detection sensor.

In the same field of endeavor, Nobuhiro teaches a camera for blurring prevention (Detail Description; [0001-0002]). Nobuhiro further teaches an x-y vibration and position detection sensor (drawing 7; vibration detection sensor 401x-y and position detection sensor 402x-y), which output a vibration or position signal corresponding to the displacement of the image-capturing device (Detail Description; [0004]); In addition, the output vibration or position signal is inputted to a control unit (Detail Description; [0004]; 403x-y: control unit in drawing 7 which is equivalent with control unit 42 in drawing 2) which is used to control the electromagnet for blurring prevention (Detail Description; [0014-0016]). In light of the teaching from Nobuhiro, it

would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Palum to include the position detection sensor and vibration-proofing control unit of Nobuhiro in order to control the electromagnetic force for moving the holding frame in a direction orthogonally crossing an optical axis and thereby providing an inexpensive and light weight camera with blurring prevention (Nobuhiro; abstract).

9. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Palum in view of Chigira (US-5,831,671).

With regarding **claim 13**, Palum discloses an image-capturing device, wherein: the photographic lens and the holding portion are formed as an integrated unit (see lens 15 and rigid frame 2 in Fig. 3; Col. 6, Ln. 63-64). However, Palum fails to explicitly teach forming an integrated unit through resin molding.

In the same field of endeavor, Chigira teaches an image blurring prevention apparatus wherein the first and second holding lens barrel are formed by molding such that a polycarbonate resin (Fig. 2; holding lens barrel 1e and 1k; it is noticed that polycarbonate resin is commonly known in the art for excellent sliding properties and providing good appearance to its molded article without impairing the mechanical strength and heat resistance). In light of the teaching from Chigira, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Palum by having the photographic lens and the holding portion form an integrated unit through polycarbonate resin molding as taught by

Chigira in order to provide an integrated lens and lens holder unit with good appearance, mechanical strength and heat resistance.

With regarding **claim 14**, Palum discloses an image-capturing device, wherein: the photographic lens member and the elastic member are formed as an integrated unit (Fig. 3; photographic lens member is interpreted as frame 2 which is integrated with a plurality of beams 1,4,5, 13, 14 and 18; Col. 6, Ln. 66-Col. 7, Ln. 4) However, Palum fails to explicitly teach forming an integrated unit through resin molding.

In the same field of endeavor, Chigira teaches an image blurring prevention apparatus wherein the first and second holding lens barrel are formed by molding such that a polycarbonate resin (Fig. 2; holding lens barrel 1e and 1k; it is noticed that polycarbonate resin is commonly known in the art for excellent sliding properties and providing good appearance to its molded article without impairing the mechanical strength and heat resistance). In light of the teaching from Chigira, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Palum by having the photographic lens member and the beam form an integrated unit through polycarbonate resin molding in order to provide an integrated unit with good appearance, mechanical strength and heat resistance.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Kurasawa (US-6,562,887) discloses a polycarbonate resin composition which provides good molding appearance, sliding property, mechanical strength, and heat resistance.

b) Ohishi (US-5,850,575) discloses a vibration reduction device comprising vibration and position detection sensor.

c) Kawahara (US-6,388,705) discloses an image sensing apparatus with vibration prevention feature.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung H. Lam whose telephone number is 571-272-7367. The examiner can normally be reached on Monday - Friday 8AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on 571-272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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9/19/05


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PRIMARY EXAMINER